TASK OUTLINE NO. 55-A-1040-A

THE PROBLEM

To determine the feasibility of the development of a multiphase modulated [redacted] system similar to Quadricode, operating in the low frequency band, and capable of being utilized under extreme climatic conditions encountered in the Polar regions. 50X1

SPECIAL REQUIREMENTS

1. The dimensions of the field unit shall approach as closely as possible those of the proposed high frequency Quadricode unit.

2. The antenna system to be incorporated into the field unit shall also be as small as possible in keeping with the normal requirements in this frequency range, [redacted] 50X1

3. The latest devices including sub-miniature components and electron tubes, printed circuitry, transistors, etc. shall be considered in the design of the field unit where practicable.

4. The field equipment shall be capable of being stored and operated at temperature ranges from -50 to +50 degrees Cen. with the exception of the battery source, which it is understood will depend upon the state of the art at the time of development.

5. The system will be required to operate reliably over propagation paths in the Polar area with ranges to approximately 2000 miles.

6. The message capacity of the storage device shall be from 50 to 100 groups.

7. The speed of transmission shall as closely approach that of Quadricode as is technically possible.

8. The self-contained power source for the field unit shall be operable over the greatest range of temperatures as is possible in keeping with the state of the art at the time of development. Maximum attention shall be given to the lowest operating range.

9. The frequency of the system shall be [redacted] 50X1

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10. The feasibility study shall include testing of an engineering model of equipment to substantiate theoretical calculations if it is determined that such a system may be developed. These tests should incorporate existing equipment fabricated for the evaluation of Quadricode wherever possible.

11. This study phase shall terminate with a formal report which outlines the degree of feasibility of such a system along with the results of the evaluation of engineering models. In addition, the report shall outline a proposed method of construction, form factors size and other parameters to be utilized in the design of prototype equipment.